

Claims:

1  
2           1.       A computer implemented system for testing one or more skills associated with the  
3 reading skills of an individual, comprising:

4               a portable media disk storing instructions for one or more tests for determining  
5 deficiencies in one or more reading and pre-reading skills and for a scorer for determining a  
6 score for each test;

7               a teacher station into which the portable media is inserted wherein the teacher station  
8 executes the instructions on the portable media to test one or more skills; and

9               a student computer comprising means for displaying at least one of a graphical image and  
10 audio associated with each test based on the instructions on the portable media, means for  
11 receiving a user response to one of the graphical images and audio presented by each test and  
12 means for communicating the responses for each test back to the teacher station.

13           2.       The system of Claim 1, wherein the teacher station further comprises a  
14 recommender for recommending, based on the scores of the one or more tests, one or more  
15 training modules for improving a reading or pre-reading skill of the individual as indicated by  
16 the score of the tests.

1           3.       The system of Claim 1, wherein the teacher station further comprises a  
2 questionnaire having one or more questions for eliciting information about risk factors associated  
3 with language-based learning disabilities.

1           4.       The system of Claim 3, wherein the information comprises historical data about  
2 reading-related risk factors including one or more of medical conditions including chronic otitis  
3 media, family history data including history of dyslexia, environmental data including  
4 socioeconomic status and exposure to literacy at home and observational data about an  
5 individual's behaviors reflecting competencies in speech sound awareness.

1           5.       The system of Claim 1, wherein the user input device of the one or more client  
2 computers comprise a speech recognition device for receiving a verbal response from the user to  
3 the one or more tests.

1           6.       The system of Claim 1, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the  
3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability  
5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.

1           7.       The system of Claim 1, wherein the tests further comprise a rhyme recognition  
2 test further comprising means for providing at least two stimuli to the user and means for  
3 receiving user input in response to the at least two stimuli to determine the user's ability to  
4 recognize rhyming words.

1           8.       The system of Claim 1, wherein the tests further comprise a test for recognizing  
2 the beginning sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an initial phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the initial phoneme of the stimulus.

1           9.       The system of Claim 1, wherein the tests further comprise a test for recognizing  
2 the ending sound of a stimulus, the test comprising means for generating at least one stimulus

3 having at least an ending phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the ending phoneme of the stimulus.

1 10. The system of Claim 1, wherein the tests further comprise a rhyme generation test  
2 comprising means for generating a stimulus and means for receiving a response from the user  
3 identifying a sound unit that rhymes with the stimulus.

1 11. The system of Claim 1, wherein the tests further comprise a sound blender test  
2 comprising means for generating at least two sound stimuli and means for receiving a user  
3 response to the at least two sound stimuli, the response indicating an ability to blend the at least  
4 two sound stimuli into a larger sound unit.

1 12. The system of Claim 1, wherein the tests further comprise a sound segmentation  
2 test comprising means for generating at least one stimulus and means for receiving a response to  
3 the stimulus comprising means for segmenting the stimulus into smaller units in order to test the  
4 ability to segment the stimulus into smaller units.

1 13. The system of Claim 1, wherein the tests comprise a sound manipulation test  
2 comprising means for generating a sound stimulus having one or more sound units and means, in  
3 response to the sound stimulus, for manipulating the sound units of the sound stimulus to test the  
4 ability to manipulate sound units.

1 14. The system of Claim 1, wherein the tests further comprise a verbal recall test  
2 comprising means for generating at least one sound stimulus and means, in response to the at  
3 least one sound stimulus, for receiving a user response indicating the recalling of the at least one  
4 sound stimulus.

1 15. The system of Claim 5 further comprising means for speaking a verbal response  
2 into the speech recognition device for receiving a verbal response from the user.

1           16.     The system of Claim 1, wherein the tests further comprise a naming test  
2     comprising means for generating at least one visual stimulus and means, in response to the  
3     display of the visual stimulus, for speaking the name of or the sound associated with the visual  
4     stimulus using the speech recognition device.

1           17.     The system of Claim 1, wherein the tests further comprise a word decoder test  
2     comprising means for displaying a visual stimulus to the user and means, in response to the  
3     visual stimulus, for receiving a response from the user to determine the ability to read the visual  
4     stimulus.

1           18.     The system of Claim 1, wherein the tests further comprise a fluency test  
2     comprising means for generating a plurality of visual stimuli and means for receiving a user's  
3     response to the visual stimuli within a predetermined time interval to determine the user's ability  
4     to read and understand the visual stimuli.

5           19.     The system of Claim 1 wherein the instructions on the portable media further  
6     comprises means for motivating the user to complete the tests.

7           20.     The system of Claim 19, wherein the motivation means further comprises means  
8     for generating a graphical image and an associated sound to motivate the user to complete the  
9     tests.

1           21.     The system of Claim 20, wherein the motivation means further comprises means  
2     for generating the graphical image and associated sound after a first predetermined number of  
3     tests are completed and means for generating another graphical image and associated sound after  
4     a second predetermined number of tests are completed.

5           22.     The system of Claim 21, wherein the generating means further comprises means  
6     for generating a graphical image indicating the number of tests remaining to be completed.

7           23.     The system of Claim 21, wherein the motivation means further comprises means  
8     for generating the graphical image and associated sound after a third predetermined number of  
9     tests.

10          24.     The system of Claim 2, wherein the recommender further comprises means for  
11     downloading the recommended training module from the teacher station to the student computer.

12           25.     The system of Claim 2, wherein the recommender further comprises means for  
13 storing the incorrect responses to the one or more tests and means for generating a training  
14 module recommendation based on the incorrect responses.

15           26.     The system of Claim 25, wherein the recommender further comprises means for  
16 comparing each incorrect response to one or more error measures to identify an error associated  
17 with each incorrect response and means for generating a training module recommendation based  
18 on the identified error.

19           27.     The system of Claim 26, wherein the comparing means further comprises means  
20 for identifying one or more errors for each incorrect response.

21           28.     The system of Claim 26, wherein the recommender further comprises means  
22 for identifying a deficient skill by comparing the identified error to a deficient skill rule  
23 and means for generating a training module recommendation based on the identified deficient  
24 skill.

25           29.     The system of Claim 1, wherein the teacher station further comprises means for  
26 dynamically generating one or more data reports that illustrate the data associated with the one or  
27 more tests.

28           30.     The system of Claim 29, wherein the data reports further comprises means for  
29 displaying the test results simultaneously for one or more students.

30           31.     The system of Claim 30, wherein the displaying means further comprises means  
31 for displaying the percentage of correct responses for a test.

32           32.     The system of Claim 30, wherein the displaying means further comprises means  
33 for displaying the results for one or more different tests for each user wherein the results for each  
34 test are displayed in a different color.

35           33.     The system of Claim 29, wherein the data report generator further comprises a  
36 user interface for browsing other test data for a user.

37           34.     The system of Claim 29, wherein the data report generator further comprises  
38 means for determining the number of user test results shown.

39           35.     The system of Claim 29, wherein the data report generator further comprises  
40 means for permitting the user to select a data report print format.

36. The system of Claim 29, wherein the data report generator further comprises means for permitting the user to select a data report display format.

37. The system of Claim 29, wherein the data report generator further comprises means for generating a data report for one or more students in a class, means for generating a data report for one or more classes each having one or more students and means for generating a data report for a school having one or more classes.

38. The system of Claim 1, wherein the teacher station further comprises means for communicating the response for each test for each student back to the server computer.

39. The system of Claim 38, wherein the teacher station further comprises means for detecting a break in the communication between the teacher station and the server computer and means for resending any test data that was not sent due to the communications break.

40. The system of Claim 1, wherein each student computer further comprises means for connecting to the teacher station and means for downloading the resources necessary to execute the current test when the test is started.

41. The system of Claim 1, wherein the teacher station further comprises means for generating a classroom layout showing an icon for each student computer.

42. The system of Claim 41, wherein the teacher station further comprises means for monitoring each student's test progress and controlling each student computer.

43. The system of Claim 41, wherein the teacher station further comprises means for collecting student test data.

44. The system of Claim 41, wherein generating the layout further comprises means for coloring each icon depending on the state of testing for the particular student computer.

45. The system of Claim 1, wherein the teacher station further comprises means for generating one or more separate accounts for the diagnostic system, wherein the accounts include a lead teacher for managing the use of the diagnostic system by one or more classroom teachers in a particular school and one or more classroom teachers who each administer the diagnostic testing for a particular class of students.



70           46.     The system of Claim 45, wherein the teacher station further comprises means for  
71     each lead teacher to register one or more classroom teachers who administer the test and means  
72     for each classroom teacher to register one or more students who are taking the test.

73           47.     The system of Claim 46, wherein the lead teacher has access to testing data for the  
74     entire school and each classroom teacher has access to testing data for the students in the class of  
75     the classroom teacher.

76           48.     A portable media product having one or more instructions for implementing a  
77     computer implemented system for testing one or more skills associated with the reading skills of  
78     an individual, the portable media product comprising:

79                 instructions for one or more tests for determining deficiencies in one or more reading and  
80     pre-reading skills;

81                 instructions for determining a score for each test;

82                 instructions that cause a student computer to display at least one of a graphical image and  
83     audio associated with each test;

84                 instructions that receive a user response to one of the graphical images and audio  
85     presented by each test; and

86                 instructions that communicate the test data to a computer that is executing the  
87     instructions of the portable media product.

88           49.     The portable media product of Claim 48 further comprising instructions for  
89     recommending, based on the scores of the one or more tests, one or more training modules for  
90     improving a reading or pre-reading skill of the individual as indicated by the score of the tests.

1           50.     The portable media product of Claim 48 further comprising instructions for  
2     generating a questionnaire having one or more questions for eliciting information about risk  
3     factors associated with language-based learning disabilities.

1           51.     The portable media product of Claim 50, wherein the information comprises  
2     historical data about reading-related risk factors including one or more of medical conditions  
3     including chronic otitis media, family history data including history of dyslexia, environmental

4 data including socioeconomic status and exposure to literacy at home and observational data  
5 about an individual's behaviors reflecting competencies in speech sound awareness.

1 52. The portable media product of Claim 48 further comprising instructions for  
2 receiving a verbal response from the user to the one or more tests using speed recognition.

1 53. The portable media product of Claim 48 further comprising instructions to  
2 generate one or more tests comprising a rhyme recognition test for testing the ability to recognize  
3 rhymes, a rhyme generation test for testing the ability to generate rhymes, a beginning and  
4 ending sound recognizer for testing the ability to recognize the beginning and ending sounds of a  
5 word, a word decoder test for testing the ability to read by sounding out a written word, a sound  
6 blender test for testing the ability to blend sound units together to form words, a sound  
7 segmenting test for testing the ability to segment a sound unit into smaller sound units, a sound  
8 manipulator test for testing the ability to manipulate sound units to form a new unit, a sequential  
9 verbal recall test for testing the ability to recall a sequence of spoken items, a rapid naming test  
10 for testing the ability to rapidly name one or more items, a letter naming and symbol/sound  
11 association test for testing the ability to name letters and identify the association between a  
12 symbol and an associated sound, and a fluent reader test for testing the ability to read fluently.

1 54. The portable media product of Claim 48, wherein the tests further comprise a  
2 rhyme recognition test further comprising instructions for providing at least two stimuli to the  
3 user and instructions for receiving user input in response to the at least two stimuli to determine  
4 the user's ability to recognize rhyming words.

1 55. The portable media product of Claim 48, wherein the tests further comprise a test  
2 for recognizing the beginning sound of a stimulus, the test comprising instructions for generating  
3 at least one stimulus having at least an initial phoneme and instructions for receiving a response  
4 to the stimulus that indicates an ability of the test taker to recognize the initial phoneme of the  
5 stimulus.



1           56.     The portable media product of Claim 48, wherein the tests further comprise a test  
2     for recognizing the ending sound of a stimulus, the test comprising instructions for generating at  
3     least one stimulus having at least an ending phoneme and instructions for receiving a response to  
4     the stimulus that indicates an ability of the test taker to recognize the ending phoneme of the  
5     stimulus.

1           57.     The portable media product of Claim 48, wherein the tests further comprise a  
2     rhyme generation test comprising instructions for generating a stimulus and instructions for  
3     receiving a response from the user identifying a sound unit that rhymes with the stimulus.

1           58.     The portable media product of Claim 48, wherein the tests further comprise a  
2     sound blender test comprising instructions for generating at least two sound stimuli and  
3     instructions for receiving a user response to the at least two sound stimuli, the response  
4     indicating an ability to blend the at least two sound stimuli into a larger sound unit.

1           59.     The portable media product of Claim 48, wherein the tests further comprise a  
2     sound segmentation test comprising instructions for generating at least one stimulus and  
3     instructions for receiving a response to the stimulus comprising instructions for segmenting the  
4     stimulus into smaller units in order to test the ability to segment the stimulus into smaller units.

1           60.     The portable media product of Claim 48, wherein the tests comprise a sound  
2     manipulation test comprising instructions for generating a sound stimulus having one or more  
3     sound units and instructions, in response to the sound stimulus, for manipulating the sound units  
4     of the sound stimulus to test the ability to manipulate sound units.

1           61.     The portable media product of Claim 48, wherein the tests further comprise a  
2     verbal recall test comprising instructions for generating at least one sound stimulus and  
3     instructions, in response to the at least one sound stimulus, for receiving a user response  
4     indicating the recalling of the at least one sound stimulus.

1           62.     The portable media product of Claim 52 further comprising instructions for  
2 receiving a verbal response from the user into the speech recognition device for receiving a  
3 verbal response from the user.

1           63.     The portable media product of Claim 48, wherein the tests further comprise a  
2 naming test comprising instructions for generating at least one visual stimulus and instructions,  
3 in response to the display of the visual stimulus, for speaking the name of or the sound associated  
4 with the visual stimulus using the speech recognition device.

1           64.     The portable media product of Claim 48, wherein the tests further comprise a  
2 word decoder test comprising instructions for displaying a visual stimulus to the user and  
3 instructions, in response to the visual stimulus, for receiving a response from the user to  
4 determine the ability to read the visual stimulus.

1           65.     The portable media product of Claim 48, wherein the tests further comprise a  
2 fluency test comprising instructions for generating a plurality of visual stimuli and instructions  
3 for receiving a user's response to the visual stimuli within a predetermined time interval to  
4 determine the user's ability to read and understand the visual stimuli.

5           66.     The portable media product of Claim 48 further comprising instructions for  
6 motivating the user to complete the tests.

7           67.     The portable media product of Claim 66, wherein the motivation instructions  
8 further comprises instructions for generating a graphical image and an associated sound to  
9 motivate the user to complete the tests.

1           68.     The portable media product of Claim 67, wherein the motivation instructions  
2 further comprises instructions for generating the graphical image and associated sound after a  
3 first predetermined number of tests are completed and instructions for generating another  
4 graphical image and associated sound after a second predetermined number of tests are  
5 completed.

6           69.     The portable media product of Claim 68, wherein the generating instructions  
7 further comprises instructions for generating a graphical image indicating the number of tests  
8 remaining to be completed.

9           70.     The portable media product of Claim 68, wherein the motivation instructions  
10 further comprises instructions for generating the graphical image and associated sound after a  
11 third predetermined number of tests.

12          71.     The portable media product of Claim 49, wherein the recommending instructions  
13 further comprises instructions for downloading the recommended training module from the  
14 teacher station to the student computer.

15          72.     The portable media product of Claim 49, wherein the recommender further  
16 comprises instructions for storing the incorrect responses to the one or more tests and  
17 instructions for generating a training module recommendation based on the incorrect responses.

18          73.     The portable media product of Claim 72, wherein the recommender further  
19 comprises instructions for comparing each incorrect response to one or more error measures to  
20 identify an error associated with each incorrect response and instructions for generating a  
21 training module recommendation based on the identified error.

22          74.     The portable media product of Claim 73, wherein the comparing instructions  
23 further comprises instructions for identifying one or more errors for each incorrect response.

24          75.     The portable media product of Claim 73, wherein the recommender further  
25 comprises instructions for identifying a deficient skill by comparing the identified error to a  
26 deficient skill rule and instructions for generating a training module recommendation based on  
27 the identified deficient skill.

28          76.     The portable media product of Claim 48, wherein the teacher station further  
29 comprises instructions for dynamically generating one or more data reports that illustrate the data  
30 associated with the one or more tests.

31          77.     The portable media product of Claim 76, wherein the data reports further  
32 comprises instructions for displaying the test results simultaneously for one or more students.

33          78.     The portable media product of Claim 77, wherein the displaying instructions  
34 further comprises instructions for displaying the percentage of correct responses for a test.

35           79.     The portable media product of Claim 77, wherein the displaying instructions  
36 further comprises instructions for displaying the results for one or more different tests for each  
37 user wherein the results for each test are displayed in a different color.

38           80.     The portable media product of Claim 76, wherein the data report generator further  
39 comprises instructions that generate a user interface for browsing other test data for a user.

40           81.     The portable media product of Claim 76, wherein the data report generator further  
41 comprises instructions for determining the number of user test results shown.

42           82.     The portable media product of Claim 76, wherein the data report generator further  
43 comprises instructions for permitting the user to select a data report print format.

44           83.     The portable media product of Claim 76, wherein the data report generator further  
45 comprises instructions for permitting the user to select a data report display format.

46           84.     The portable media product of Claim 76, wherein the data report generator further  
47 comprises instructions for generating a data report for one or more students in a class,  
48 instructions for generating a data report for one or more classes each having one or more students  
49 and instructions for generating a data report for a school having one or more classes.

50           85.     The portable media product of Claim 48 further comprises instructions for  
51 communicating the response for each test for each student back to the server computer.

52           86.     The portable media product of Claim 85 further comprises instructions for  
53 detecting a break in the communication between the teacher station and the server computer and  
54 instructions for resending any test data that was not sent due to the communications break.

55           87.     The portable media product of Claim 48, wherein each student computer further  
56 comprises instructions for connecting to the teacher station and instructions for downloading the  
57 resources necessary to execute the current test when the test is started.

58           88.     The portable media product of Claim 48, wherein the teacher station further  
59 comprises instructions for generating a classroom layout showing an icon for each student  
60 computer.

61           89.     The portable media product of Claim 88, wherein the teacher station further  
62 comprises instructions for monitoring each student's test progress and controlling each student  
63 computer.

90. The portable media product of Claim 88, wherein the teacher station further comprises instructions for collecting student test data.

91. The portable media product of Claim 88, wherein generating the layout further comprises instructions for coloring each icon depending on the state of testing for the particular student computer.

92. The portable media product of Claim 48, wherein the teacher station further comprises instructions for generating one or more separate accounts for the diagnostic system, wherein the accounts include a lead teacher for managing the use of the diagnostic system by one or more classroom teachers in a particular school and one or more classroom teachers who each administer the diagnostic testing for a particular class of students.

93. The portable media product of Claim 92, wherein the teacher station further comprises instructions for each lead teacher to register one or more classroom teachers who administer the test and instructions for each classroom teacher to register one or more students who are taking the test.

94. The portable media product of Claim 93, wherein the lead teacher has access to testing data for the entire school and each classroom teacher has access to testing data for the students in the class of the classroom teacher.

95. A system for testing one or more skills associated with the reading skills of an individual, comprising:

a server computer comprising one or more tests for determining deficiencies in one or more reading and pre-reading skills, a scorer for determining a score for each test; and

one or more client computers that establish a communications session with the server computer to download the one or more tests from the server computer, each client computer comprising means for displaying at least one of a graphical image and audio associated with each test located on the server, means for receiving a user response to one of the graphical images and audio presented by each test, means for communicating the responses for each test back to the server computer, and means for motivating the user to complete the tests.

96. The system of Claim 95, wherein the server computer further comprises a recommender for recommending, based on the scores of the one or more tests, one or more

94 training modules for improving a reading or pre-reading skill of the individual as indicated by  
95 the score of the tests.

96  
1 97. The system of Claim 95, wherein the server further comprises a questionnaire  
2 having one or more questions for eliciting information about risk factors associated with  
3 language-based learning disabilities.  
4

1 98. The system of Claim 97, wherein the information comprises historical data about  
2 reading-related risk factors including one or more of medical conditions including chronic otitis  
3 media, family history data including history of dyslexia, environmental data including  
4 socioeconomic status and exposure to literacy at home and observational data about an  
5 individual's behaviors reflecting competencies in speech sound awareness.  
6

1 99. The system of Claim 95, wherein the user input device of the one or more client  
2 computers comprise a speech recognition device for receiving a verbal response from the user to  
3 the one or more tests.  
4

1 100. The system of Claim 95, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the  
3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability  
5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.  
13



1           101. The system of Claim 95, wherein the tests further comprise a rhyme recognition  
2 test further comprising means for providing at least two stimuli to the user and means for  
3 receiving user input in response to the at least two stimuli to determine the user's ability to  
4 recognize rhyming words.

1           102. The system of Claim 95, wherein the tests further comprise a test for recognizing  
2 the beginning sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an initial phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the initial phoneme of the stimulus.

1           103. The system of Claim 95, wherein the tests further comprise a test for recognizing  
2 the ending sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an ending phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the ending phoneme of the stimulus.

1           104. The system of Claim 95, wherein the tests further comprise a rhyme generation  
2 test comprising means for generating a stimulus and means for receiving a response from the  
3 user identifying a sound unit that rhymes with the stimulus.

1           105. The system of Claim 95, wherein the tests further comprise a sound blender test  
2 comprising means for generating at least two sound stimuli and means for receiving a user  
3 response to the at least two sound stimuli, the response indicating an ability to blend the at least  
4 two sound stimuli into a larger sound unit.

1           106. The system of Claim 95, wherein the tests further comprise a sound segmentation  
2 test comprising means for generating at least one stimulus and means for receiving a response to  
3 the stimulus comprising means for segmenting the stimulus into smaller units in order to test the  
4 ability to segment the stimulus into smaller units.

1           107. The system of Claim 95, wherein the tests comprise a sound manipulation test  
2 comprising means for generating a sound stimulus having one or more sound units and means, in  
3 response to the sound stimulus, for manipulating the sound units of the sound stimulus to test the  
4 ability to manipulate sound units.

1           108. The system of Claim 95, wherein the tests further comprise a verbal recall test  
2 comprising means for generating at least one sound stimulus and means, in response to the at  
3 least one sound stimulus, for receiving a user response indicating the recalling of the at least one  
4 sound stimulus.

1           109. The system of Claim 99 further comprising means for speaking a verbal response  
2 into the speech recognition device for receiving a verbal response from the user.

1           110. The system of Claim 95, wherein the tests further comprise a naming test  
2 comprising means for generating at least one visual stimulus and means, in response to the  
3 display of the visual stimulus, for speaking the name of or the sound associated with the visual  
4 stimulus using the speech recognition device.

1           111. The system of Claim 95, wherein the tests further comprise a word decoder test  
2 comprising means for displaying a visual stimulus to the user and means, in response to the  
3 visual stimulus, for receiving a response from the user to determine the ability to read the visual  
4 stimulus.

1           112. The system of Claim 95, wherein the tests further comprise a fluency test  
2 comprising means for generating a plurality of visual stimuli and means for receiving a user's  
3 response to the visual stimuli within a predetermined time interval to determine the user's ability  
4 to read and understand the visual stimuli.

1           113. The system of Claim 95, wherein the motivation means further comprises means  
2 for generating a graphical image and an associated sound to motivate the user to complete the  
3 tests.

1           114. The system of Claim 113, wherein the motivation means further comprises means  
2 for generating the graphical image and associated sound after a first predetermined number of  
3 tests are completed and means for generating another graphical image and associated sound after  
4 a second predetermined number of tests are completed.

5           115. The system of Claim 114, wherein the generating means further comprises means  
6 for generating a graphical image indicating the number of tests remaining to be completed.

7           116. The system of Claim 114, wherein the motivation means further comprises means  
8 for generating the graphical image and associated sound after a third predetermined number of  
9 tests.

10           117. The system of Claim 96, wherein the recommender further comprises means for  
11 downloading the recommended training module to the client computer.

12           118. The system of Claim 96, wherein the recommender further comprises means for  
13 storing the incorrect responses to the one or more tests and means for generating a training  
14 module recommendation based on the incorrect responses.

15           119. The system of Claim 118, wherein the recommender further comprises means for  
16 comparing each incorrect response to one or more error measures to identify an error associated  
17 with each incorrect response and means for generating a training module recommendation based  
18 on the identified error.

19           120. The system of Claim 119, wherein the comparing means further comprises means  
20 for identifying one or more errors for each incorrect response.

21           121. The system of Claim 119, wherein the recommender further comprises means for  
22 identifying a deficient skill by comparing the identified error to a deficient skill rule and means  
23 for generating a training module recommendation based on the identified deficient skill.

24           122. The system of Claim 95, wherein the server further comprises means for  
25 dynamically generating one or more data reports that illustrate the data associated with the one or  
26 more tests.

27           123. The system of Claim 122, wherein the data reports further comprises means for  
28 displaying the test results simultaneously for one or more students.

29           124. The system of Claim 123, wherein the displaying means further comprises means  
30 for displaying the percentage of correct responses for a test.

125. The system of Claim 123, wherein the displaying means further comprises means for displaying the results for one or more different tests for each user wherein the results for each test are displayed in a different color.

126. The system of Claim 122, wherein the data report generator further comprises a user interface for browsing other test data for a user.

127. The system of Claim 122, wherein the data report generator further comprises means for determining the number of user test results shown.

128. The system of Claim 122, wherein the data report generator further comprises means for permitting the user to select a data report print format.

129. The system of Claim 122, wherein the data report generator further comprises means for permitting the user to select a data report display format.

130. The system of Claim 122, wherein the data report generator further comprises means for generating a data report for one or more students in a class, means for generating a data report for one or more classes each having one or more students and means for generating a data report for a school having one or more classes.

131. The system of Claim 95, wherein the client computer further comprises a teacher station that downloads the tests from the server and one or more student computers connected to the teacher station by a network, each student computer further comprising means for displaying at least one of a graphical image and audio associated with each test located on the server, means for receiving a user response to one of the graphical images and audio presented by each test and means for communicating the responses for each test back to the teacher station.

132. The system of Claim 131, wherein the teacher station further comprises means for communicating the response for each test for each student back to the server computer.

133. The system of Claim 132, wherein the teacher station further comprises means for detecting a break in the communication between the teacher station and the server computer and means for resending any test data that was not sent due to the communications break.

134. The system of Claim 131, wherein each student computer further comprises means for connecting to the server computer and means for downloading the resources necessary to execute the current test when the test is started.

135. The system of Claim 131, wherein the teacher station further comprises means for generating a classroom layout showing an icon for each student computer.

136. The system of Claim 135, wherein the teacher station further comprises means for monitoring each student's test progress and controlling each student computer.

137. The system of Claim 135, wherein the teacher station further comprises means for collecting student test data.

138. The system of Claim 135, wherein generating the layout further comprises means for coloring each icon depending on the state of testing for the particular student computer.

139. The system of Claim 131, wherein the teacher station further comprises means for generating one or more separate accounts for the diagnostic system, wherein the accounts include an account manager for managing an entire school or district of users of the diagnostic system, a lead teacher for managing the use of the diagnostic system by one or more classroom teachers in a particular school and one or more classroom teachers who each administer the diagnostic testing for a particular class of students.

140. The system of Claim 139, wherein the teacher station further comprises means for the account manager to register one or more lead teachers and means for each lead teacher to register one or more classroom teachers who administer the test.

141. The system of Claim 140, wherein the account manager has access to testing data for the entire district, wherein the lead teacher has access to testing data for the entire school and each classroom teacher has access to testing data for the class of the classroom teacher.

142. A method for testing one or more skills associated with the reading skills of an individual, comprising:

storing instructions corresponding to one or more tests on a server for determining deficiencies in one or more reading and pre-reading skills and a scorer for determining a score for each test;

downloading the one or more tests from the server computer by a client computer;

displaying at least one of a graphical image and audio associated with each test located on the server at the client computer;

receiving a user response to one of the graphical images and audio presented by each test at the client computer;

communicating the responses for each test back to the server computer; and

motivating the user to complete the tests.

143. The method of Claim 142 further comprising recommending at the server, based on the scores of the one or more tests, one or more training modules for improving a reading or pre-reading skill of the individual as indicated by the score of the tests.

144. The method of Claim 142 further comprising generating a questionnaire having one or more questions for eliciting information about risk factors associated with language-based learning disabilities.

145. The method of Claim 144, wherein the information comprises historical data about reading-related risk factors including one or more of medical conditions including chronic otitis media, family history data including history of dyslexia, environmental data including socioeconomic status and exposure to literacy at home and observational data about an individual's behaviors reflecting competencies in speech sound awareness.

146. The method of Claim 142 further comprising receiving a verbal response from a user to one or more tests using a speech recognition device.



1 147. The method of Claim 142, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the  
3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability  
5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.

1 148. The method of Claim 142, wherein the tests further comprise a rhyme recognition  
2 test further comprising providing at least two stimuli to the user and receiving user input in  
3 response to the at least two stimuli to determine the user's ability to recognize rhyming words.

1 149. The method of Claim 142, wherein the tests further comprise a test for  
2 recognizing the beginning sound of a stimulus, the test comprising generating at least one  
3 stimulus having at least an initial phoneme and receiving a response to the stimulus that indicates  
4 an ability of the test taker to recognize the initial phoneme of the stimulus.

1 150. The method of Claim 142, wherein the tests further comprise a test for  
2 recognizing the ending sound of a stimulus, the test comprising generating at least one stimulus  
3 having at least an ending phoneme and receiving a response to the stimulus that indicates an  
4 ability of the test taker to recognize the ending phoneme of the stimulus.

1 151. The method of Claim 142, wherein the tests further comprise a rhyme generation  
2 test comprising generating a stimulus and receiving a response from the user identifying a sound  
3 unit that rhymes with the stimulus.

1 152. The method of Claim 142, wherein the tests further comprise a sound blender test  
2 comprising generating at least two sound stimuli and receiving a user response to the at least two  
3 sound stimuli, the response indicating an ability to blend the at least two sound stimuli into a  
4 larger sound unit.

1 153. The method of Claim 142, wherein the tests further comprise a sound  
2 segmentation test comprising generating at least one stimulus and receiving a response to the  
3 stimulus comprising means for segmenting the stimulus into smaller units in order to test the  
4 ability to segment the stimulus into smaller units.

1 154. The method of Claim 142, wherein the tests comprise a sound manipulation test  
2 comprising generating a sound stimulus having one or more sound units and, in response to the  
3 sound stimulus, manipulating the sound units of the sound stimulus to test the ability to  
4 manipulate sound units.

1 155. The method of Claim 142, wherein the tests further comprise a verbal recall test  
2 comprising generating at least one sound stimulus and, in response to the at least one sound  
3 stimulus, receiving a user response indicating the recalling of the at least one sound stimulus.

1 156. The method of Claim 146 further comprising speaking a verbal response into the  
2 speech recognition device for receiving a verbal response from the user.

1 157. The method of Claim 142, wherein the tests further comprise a naming test  
2 comprising generating at least one visual stimulus and, in response to the display of the visual  
3 stimulus, speaking the name of or the sound associated with the visual stimulus using the speech  
4 recognition device.

1           158. The method of Claim 142, wherein the tests further comprise a word decoder test  
2 comprising displaying a visual stimulus to the user and, in response to the visual stimulus,  
3 receiving a response from the user to determine the ability to read the visual stimulus.

1           159. The method of Claim 142, wherein the tests further comprise a fluency test  
2 comprising generating a plurality of visual stimuli and receiving a user's response to the visual  
3 stimuli within a predetermined time interval to determine the user's ability to read and  
4 understand the visual stimuli.

5           160. The method of Claim 142, wherein the motivation further comprises generating a  
6 graphical image and an associated sound to motivate the user to complete the tests.

7           161. The method of Claim 160, wherein the motivation further comprises generating  
8 the graphical image and associated sound after a first predetermined number of tests are  
9 completed and generating another graphical image and associated sound after a second  
10 predetermined number of tests are completed.

11           162. The method of Claim 161, wherein the generating further comprises generating a  
12 graphical image indicating the number of tests remaining to be completed.

13           163. The method of Claim 161, wherein the motivation further comprises generating  
14 the graphical image and associated sound after a third predetermined number of tests.

15           164. The method of Claim 143, wherein the recommender further comprises  
16 downloading the recommended training module to the client computer.

17           165. The method of Claim 143, wherein the recommender further comprises storing  
18 the incorrect responses to the one or more tests and generating a training module  
19 recommendation based on the incorrect responses.

          166. The method of Claim 165, wherein the recommender further comprises  
comparing each incorrect response to one or more error measures to identify an error associated  
with each incorrect response and generating a training module recommendation based on the  
identified error.

          167. The method of Claim 166, wherein the comparing further comprises identifying  
one or more errors for each incorrect response.

20           168.    The method of Claim 166, wherein the recommender further comprises  
21 identifying a deficient skill by comparing the identified error to a deficient skill rule and  
22 generating a training module recommendation based on the identified deficient skill.

23           169.    The method of Claim 142 further comprising dynamically generating one or more  
24 data reports that illustrate the data associated with the one or more tests.

25           170.    The method of Claim 169, wherein the data reports further comprises displaying  
26 the test results simultaneously for one or more students.

27           171.    The method of Claim 170, wherein the displaying further comprises displaying  
28 the percentage of correct responses for a test.

29           172.    The method of Claim 170, wherein the displaying further comprises displaying  
30 the results for one or more different tests for each user wherein the results for each test are  
31 displayed in a different color.

32           173.    The method of Claim 169, wherein the data report generator further comprises a  
33 user interface for browsing other test data for a user.

34           174.    The method of Claim 169, wherein the data report generator further comprises  
35 determining the number of user test results shown.

36           175.    The method of Claim 169, wherein the data report generator further comprises  
37 permitting the user to select a data report print format.

38           176.    The method of Claim 169, wherein the data report generator further comprises  
39 permitting the user to select a data report display format.

40           177.    The method of Claim 169, wherein the data report generator further comprises  
41 generating a data report for one or more students in a class, generating a data report for one or  
42 more classes each having one or more students, generating a data report for a school having one  
43 or more classes, and generating a data

44  
45           178.    The method of Claim 142, wherein the client computer further comprises a  
46 teacher station that downloads the tests from the server and one or more student computers  
47 connected to the teacher station by a network, each student computer further comprising  
48 displaying at least one of a graphical image and audio associated with each test located on the

server, receiving a user response to one of the graphical images and audio presented by each test and communicating the responses for each test back to the teacher station.

179. The method of Claim 178, wherein the teacher station further comprises communicating the response for each test for each student back to the server computer.

180. The method of Claim 179, wherein the teacher station further comprises detecting a break in the communication between the teacher station and the server computer and resending any test data that was not sent due to the communications break.

181. The method of Claim 178, wherein each student computer further comprises connecting to the server computer and downloading the resources necessary to execute the current test when the test is started.

182. The method of Claim 178, wherein the teacher station further comprises generating a classroom layout showing an icon for each student computer.

183. The method of Claim 182, wherein the teacher station further comprises monitoring each student's test progress and controlling each student computer.

184. The method of Claim 182, wherein the teacher station further comprises collecting student test data.

185. The method of Claim 182, wherein generating the layout further comprises coloring each icon depending on the state of testing for the particular student computer.

186. The method of Claim 178, wherein the teacher station further comprises generating one or more separate accounts for the diagnostic system, wherein the accounts include an account manager for managing an entire school or district of users of the diagnostic system, a lead teacher for managing the use of the diagnostic system by one or more classroom teachers in a particular school and one or more classroom teachers who each administer the diagnostic testing for a particular class of students.

187. The method of Claim 186, wherein the teacher station further comprises a user interface for the account manager to register one or more lead teachers and a user interface for each lead teacher to register one or more classroom teachers who administer the test.

188. The method of Claim 187, wherein the account manager has access to testing data for the entire district, wherein the lead teacher has access to testing data for the entire school and each classroom teacher has access to testing data for the class of the classroom teacher.

79           189. A system for testing one or more skills associated with the reading skills of an  
80 individual, comprising:

81           a server computer comprising one or more tests for determining deficiencies in one or  
82 more reading and pre-reading skills, a scorer for determining a score for each test; and  
83           one or more client computers that establish a communications session with the server  
84 computer to download the one or more tests from the server computer, each client computer  
85 comprising means for displaying at least one of a graphical image and audio associated with each  
86 test located on the server, means for receiving a user response to one of the graphical images and  
87 audio presented by each test, means for communicating the responses for each test back to the  
88 server computer, and a recommender for recommending, based on the scores of the one or more  
89 tests, one or more training modules for improving a reading or pre-reading skill of the individual  
90 as indicated by the score of the tests.

91           190. The system of Claim 189, wherein each client computer further comprises means  
92 for motivating the user to complete the tests.

93           191. The system of Claim 189, wherein the server further comprises a  
94 questionnaire having one or more questions for eliciting information about risk factors associated  
95 with language-based learning disabilities.

1           192. The system of Claim 191, wherein the information comprises historical data about  
2 reading-related risk factors including one or more of medical conditions including chronic otitis  
3 media, family history data including history of dyslexia, environmental data including  
4 socioeconomic status and exposure to literacy at home and observational data about an  
5 individual's behaviors reflecting competencies in speech sound awareness.

1           193. The system of Claim 189, wherein the user input device of the one or more client  
2 computers comprise a speech recognition device for receiving a verbal response from the user to  
3 the one or more tests.

1           194. The system of Claim 189, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the



3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability  
5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.

1 195. The system of Claim 189, wherein the tests further comprise a rhyme recognition  
2 test further comprising means for providing at least two stimuli to the user and means for  
3 receiving user input in response to the at least two stimuli to determine the user's ability to  
4 recognize rhyming words.

1 196. The system of Claim 189, wherein the tests further comprise a test for recognizing  
2 the beginning sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an initial phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the initial phoneme of the stimulus.

1 197. The system of Claim 189, wherein the tests further comprise a test for recognizing  
2 the ending sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an ending phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the ending phoneme of the stimulus.

1 198. The system of Claim 189, wherein the tests further comprise a rhyme generation  
2 test comprising means for generating a stimulus and means for receiving a response from the  
3 user identifying a sound unit that rhymes with the stimulus.

199. The system of Claim 189, wherein the tests further comprise a sound blender test comprising means for generating at least two sound stimuli and means for receiving a user response to the at least two sound stimuli, the response indicating an ability to blend the at least two sound stimuli into a larger sound unit.

200. The system of Claim 189, wherein the tests further comprise a sound segmentation test comprising means for generating at least one stimulus and means for receiving a response to the stimulus comprising means for segmenting the stimulus into smaller units in order to test the ability to segment the stimulus into smaller units.

201. The system of Claim 189, wherein the tests comprise a sound manipulation test comprising means for generating a sound stimulus having one or more sound units and means, in response to the sound stimulus, for manipulating the sound units of the sound stimulus to test the ability to manipulate sound units.

202. The system of Claim 189, wherein the tests further comprise a verbal recall test comprising means for generating at least one sound stimulus and means, in response to the at least one sound stimulus, for receiving a user response indicating the recalling of the at least one sound stimulus.

203. The system of Claim 193 further comprising means for speaking a verbal response into the speech recognition device for receiving a verbal response from the user.

204. The system of Claim 189, wherein the tests further comprise a naming test comprising means for generating at least one visual stimulus and means, in response to the display of the visual stimulus, for speaking the name of or the sound associated with the visual stimulus using the speech recognition device.

205. The system of Claim 189, wherein the tests further comprise a word decoder test comprising means for displaying a visual stimulus to the user and means, in response to the

3 visual stimulus, for receiving a response from the user to determine the ability to read the visual  
4 stimulus.

1 206. The system of Claim 189, wherein the tests further comprise a fluency test  
2 comprising means for generating a plurality of visual stimuli and means for receiving a user's  
3 response to the visual stimuli within a predetermined time interval to determine the user's ability  
4 to read and understand the visual stimuli.

5  
6 207. The system of Claim 190, wherein the motivation means further comprises means  
7 for generating a graphical image and an associated sound to motivate the user to complete the  
8 tests.

9  
10 208. The system of Claim 207, wherein the motivation means further comprises means  
11 for generating the graphical image and associated sound after a first predetermined number of  
12 tests are completed and means for generating another graphical image and associated sound after  
13 a second predetermined number of tests are completed.

14 209. The system of Claim 208, wherein the generating means further comprises means  
15 for generating a graphical image indicating the number of tests remaining to be completed.

16 210. The system of Claim 208, wherein the motivation means further comprises means  
17 for generating the graphical image and associated sound after a third predetermined number of  
18 tests.

211. The system of Claim 189, wherein the recommender further comprises means for  
downloading the recommended training module to the client computer.

212. The system of Claim 189, wherein the recommender further comprises means for  
storing the incorrect responses to the one or more tests and means for generating a training  
module recommendation based on the incorrect responses.

213. The system of Claim 212, wherein the recommender further comprises means for  
comparing each incorrect response to one or more error measures to identify an error associated  
with each incorrect response and means for generating a training module recommendation based  
on the identified error.

214. The system of Claim 213, wherein the comparing means further comprises means for identifying one or more errors for each incorrect response.

215. The system of Claim 213, wherein the recommender further comprises means for identifying a deficient skill by comparing the identified error to a deficient skill rule and means for generating a training module recommendation based on the identified deficient skill.

216. The system of Claim 189, wherein the server further comprises means for dynamically generating one or more data reports that illustrate the data associated with the one or more tests.

217. The system of Claim 216, wherein the data reports further comprises means for displaying the test results simultaneously for one or more students.

218. The system of Claim 217, wherein the displaying means further comprises means for displaying the percentage of correct responses for a test.

219. The system of Claim 217, wherein the displaying means further comprises means for displaying the results for one or more different tests for each user wherein the results for each test are displayed in a different color.

220. The system of Claim 216, wherein the data report generator further comprises a user interface for browsing other test data for a user.

221. The system of Claim 216, wherein the data report generator further comprises means for determining the number of user test results shown.

222. The system of Claim 216, wherein the data report generator further comprises means for permitting the user to select a data report print format.

223. The system of Claim 216, wherein the data report generator further comprises means for permitting the user to select a data report display format.

224. The system of Claim 216, wherein the data report generator further comprises means for generating a data report for one or more students in a class, means for generating a data report for one or more classes each having one or more students and means for generating a data report for a school having one or more classes.

225. The system of Claim 189, wherein the client computer further comprises a teacher station that downloads the tests from the server and one or more student computers connected to the teacher station by a network, each student computer further comprising means for displaying

at least one of a graphical image and audio associated with each test located on the server, means for receiving a user response to one of the graphical images and audio presented by each test and means for communicating the responses for each test back to the teacher station.

226. The system of Claim 225, wherein the teacher station further comprises means for communicating the response for each test for each student back to the server computer.

227. The system of Claim 226, wherein the teacher station further comprises means for detecting a break in the communication between the teacher station and the server computer and means for resending any test data that was not sent due to the communications break.

228. The system of Claim 225, wherein each student computer further comprises means for connecting to the server computer and means for downloading the resources necessary to execute the current test when the test is started.

229. The system of Claim 225, wherein the teacher station further comprises means for controlling each student computer.

230. The system of Claim 225, wherein the teacher station further comprises means for generating a classroom layout showing an icon for each student computer.

231. The system of Claim 230, wherein the teacher station further comprises means for monitoring each student's test progress and controlling each student computer.

232. The system of Claim 230, wherein the teacher station further comprises means for collecting student test data.

233. The system of Claim 230, wherein generating the layout further comprises means for coloring each icon depending on the state of testing for the particular student computer.

234. The system of Claim 189, wherein the teacher station further comprises means for generating one or more separate accounts for the diagnostic system, wherein the accounts include an account manager for managing an entire school or district of users of the diagnostic system, a lead teacher for managing the use of the diagnostic system by one or more classroom teachers in a particular school and one or more classroom teachers who each administer the diagnostic testing for a particular class of students.

235. The system of Claim 234, wherein the teacher station further comprises means for the account manager to register one or more lead teachers and means for each lead teacher to register one or more classroom teachers who administer the test.

236. The system of Claim 235, wherein the account manager has access to testing data for the entire district, wherein the lead teacher has access to testing data for the entire school and each classroom teacher has access to testing data for the class of the classroom teacher.

237. A method for testing one or more skills associated with the reading skills of an individual, comprising:

storing instructions corresponding to one or more tests on a server for determining deficiencies in one or more reading and pre-reading skills and a scorer for determining a score for each test;

downloading the one or more tests from the server computer by a client computer;

displaying at least one of a graphical image and audio associated with each test located on the server at the client computer;

receiving a user response to one of the graphical images and audio presented by each test at the client computer;

communicating the responses for each test back to the server computer; and

recommending at the server, based on the scores of the one or more tests, one or more training modules for improving a reading or pre-reading skill of the individual as indicated by the score of the tests.

238. The method of Claim 237 further comprising motivating the user to complete the tests.

239. The method of Claim 237 further comprising generating a questionnaire having one or more questions for eliciting information about risk factors associated with language-based learning disabilities.

240. The method of Claim 239, wherein the information comprises historical data about reading-related risk factors including one or more of medical conditions including chronic otitis media, family history data including history of dyslexia, environmental data including socioeconomic status and exposure to literacy at home and observational data about an individual's behaviors reflecting competencies in speech sound awareness.



1           241. The method of Claim 237 further comprising receiving a verbal response from a  
2 user to one or more tests using a speech recognition device.

1           242. The method of Claim 237, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the  
3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability  
5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.

1           243. The method of Claim 237, wherein the tests further comprise a rhyme recognition  
2 test further comprising providing at least two stimuli to the user and receiving user input in  
3 response to the at least two stimuli to determine the user's ability to recognize rhyming words.

1           244. The method of Claim 237, wherein the tests further comprise a test for  
2 recognizing the beginning sound of a stimulus, the test comprising generating at least one  
3 stimulus having at least an initial phoneme and receiving a response to the stimulus that indicates  
4 an ability of the test taker to recognize the initial phoneme of the stimulus.

1           245. The method of Claim 237, wherein the tests further comprise a test for  
2 recognizing the ending sound of a stimulus, the test comprising generating at least one stimulus  
3 having at least an ending phoneme and receiving a response to the stimulus that indicates an  
4 ability of the test taker to recognize the ending phoneme of the stimulus.

1           246. The method of Claim 237, wherein the tests further comprise a rhyme generation  
2 test comprising generating a stimulus and receiving a response from the user identifying a sound  
3 unit that rhymes with the stimulus.

1           247. The method of Claim 237, wherein the tests further comprise a sound blender test  
2 comprising generating at least two sound stimuli and receiving a user response to the at least two  
3 sound stimuli, the response indicating an ability to blend the at least two sound stimuli into a  
4 larger sound unit.

1           248. The method of Claim 237, wherein the tests further comprise a sound  
2 segmentation test comprising generating at least one stimulus and receiving a response to the  
3 stimulus comprising means for segmenting the stimulus into smaller units in order to test the  
4 ability to segment the stimulus into smaller units.

1           249. The method of Claim 237, wherein the tests comprise a sound manipulation test  
2 comprising generating a sound stimulus having one or more sound units and, in response to the  
3 sound stimulus, manipulating the sound units of the sound stimulus to test the ability to  
4 manipulate sound units.

1           250. The method of Claim 237, wherein the tests further comprise a verbal recall test  
2 comprising generating at least one sound stimulus and, in response to the at least one sound  
3 stimulus, receiving a user response indicating the recalling of the at least one sound stimulus.

1           251. The method of Claim 241 further comprising speaking a verbal response into the  
2 speech recognition device for receiving a verbal response from the user.

1           252. The method of Claim 237, wherein the tests further comprise a naming test  
2 comprising generating at least one visual stimulus and, in response to the display of the visual

3 stimulus, speaking the name of or the sound associated with the visual stimulus using the speech  
4 recognition device.

1 253. The method of Claim 237, wherein the tests further comprise a word decoder test  
2 comprising displaying a visual stimulus to the user and, in response to the visual stimulus,  
3 receiving a response from the user to determine the ability to read the visual stimulus.

1 254. The method of Claim 237, wherein the tests further comprise a fluency test  
2 comprising generating a plurality of visual stimuli and receiving a user's response to the visual  
3 stimuli within a predetermined time interval to determine the user's ability to read and  
4 understand the visual stimuli.

5 255. The method of Claim 237, wherein the motivation further comprises generating a  
6 graphical image and an associated sound to motivate the user to complete the tests.

1 256. The method of Claim 255, wherein the motivation further comprises generating  
2 the graphical image and associated sound after a first predetermined number of tests are  
3 completed and generating another graphical image and associated sound after a second  
4 predetermined number of tests are completed.

5 257. The method of Claim 256, wherein the generating further comprises generating a  
6 graphical image indicating the number of tests remaining to be completed.

7 258. The method of Claim 256, wherein the motivation further comprises generating  
8 the graphical image and associated sound after a third predetermined number of tests.

9 259. The method of Claim 238, wherein the recommender further comprises  
10 downloading the recommended training module to the client computer.

11 260. The method of Claim 238, wherein the recommender further comprises storing  
12 the incorrect responses to the one or more tests and generating a training module  
13 recommendation based on the incorrect responses.

14 261. The method of Claim 260, wherein the recommender further comprises  
15 comparing each incorrect response to one or more error measures to identify an error associated  
16 with each incorrect response and generating a training module recommendation based on the  
17 identified error.

18           262.   The method of Claim 261, wherein the comparing further comprises identifying  
19 one or more errors for each incorrect response.

20           263.   The method of Claim 261, wherein the recommender further comprises  
21 identifying a deficient skill by comparing the identified error to a deficient skill rule and  
22 generating a training module recommendation based on the identified deficient skill.

23           264.   The method of Claim 237 further comprising dynamically generating one or more  
24 data reports that illustrate the data associated with the one or more tests.

25           265.   The method of Claim 264, wherein the data reports further comprises displaying  
26 the test results simultaneously for one or more students.

27           266.   The method of Claim 265, wherein the displaying further comprises displaying  
28 the percentage of correct responses for a test.

29           267.   The method of Claim 265, wherein the displaying further comprises displaying  
30 the results for one or more different tests for each user wherein the results for each test are  
31 displayed in a different color.

32           268.   The method of Claim 264, wherein the data report generator further comprises a  
33 user interface for browsing other test data for a user.

34           269.   The method of Claim 264, wherein the data report generator further comprises  
35 determining the number of user test results shown.

36           270.   The method of Claim 264, wherein the data report generator further comprises  
37 permitting the user to select a data report print format.

38           271.   The method of Claim 264, wherein the data report generator further comprises  
39 permitting the user to select a data report display format.

40           272.   The method of Claim 264, wherein the data report generator further comprises  
41 generating a data report for one or more students in a class, generating a data report for one or  
42 more classes each having one or more students and generating a data report for a school having  
43 one or more classes.

44  
45           273.   The method of Claim 237, wherein the client computer further comprises a  
46 teacher station that downloads the tests from the server and one or more student computers  
47 connected to the teacher station by a network, each student computer further comprising

displaying at least one of a graphical image and audio associated with each test located on the server, receiving a user response to one of the graphical images and audio presented by each test and communicating the responses for each test back to the teacher station.

274. The method of Claim 273, wherein the teacher station further comprises communicating the response for each test for each student back to the server computer.

275. The method of Claim 274, wherein the teacher station further comprises detecting a break in the communication between the teacher station and the server computer and resending any test data that was not sent due to the communications break.

276. The method of Claim 273, wherein each student computer further comprises connecting to the server computer and downloading the resources necessary to execute the current test when the test is started.

277. The method of Claim 273, wherein the teacher station further comprises generating a classroom layout showing an icon for each student computer.

278. The method of Claim 277, wherein the teacher station further comprises monitoring each student's test progress and controlling each student computer.

279. The method of Claim 277, wherein the teacher station further comprises collecting student test data.

280. The method of Claim 277, wherein generating the layout further comprises coloring each icon depending on the state of testing for the particular student computer.

281. The method of Claim 273, wherein the teacher station further comprises generating one or more separate accounts for the diagnostic system, wherein the accounts include an account manager for managing an entire school or district of users of the diagnostic system, a lead teacher for managing the use of the diagnostic system by one or more classroom teachers in a particular school and one or more classroom teachers who each administer the diagnostic testing for a particular class of students.

282. The method of Claim 281, wherein the teacher station further comprises a user interface for the account manager to register one or more lead teachers and a user interface for each lead teacher to register one or more classroom teachers who administer the test.

76           283.    The method of Claim 282, wherein the account manager has access to testing data  
77 for the entire district, wherein the lead teacher has access to testing data for the entire school and  
78 each classroom teacher has access to testing data for the class of the classroom teacher.

79  
80           284.    A server for testing one or more skills associated with the reading skills of an  
81 individual, comprising:  
82           one or more tests for determining deficiencies in one or more reading and pre-reading  
83 skills;  
84           a scorer for determining a score for each test; and  
85           means for establishing a communications session with a client computer to download the  
86 one or more tests to the client computer wherein each client computer displays at least one of a  
87 graphical image and audio associated with each test located on the server, receiving a user  
88 response to one of the graphical images and audio presented by each test and communicates the  
89 responses for each test back to the server computer;  
90           a recommender for recommending, based on the scores of the one or more tests, one or  
91 more training modules for improving a reading or pre-reading skill of the individual as indicated  
92 by the score of the tests.

93           285.    The server of Claim 284 further comprising a client computer, wherein each client  
94 computer further comprises means for motivating the user to complete the tests.

95           286.    The server of Claim 284 further comprising a questionnaire having one or more  
96 questions for eliciting information about risk factors associated with language-based learning  
97 disabilities.

1           287.    The server of Claim 286, wherein the information comprises historical data about  
2 reading-related risk factors including one or more of medical conditions including chronic otitis  
3 media, family history data including history of dyslexia, environmental data including  
4 socioeconomic status and exposure to literacy at home and observational data about an  
5 individual's behaviors reflecting competencies in speech sound awareness.



1           288. The server of Claim 285, wherein the user input device of the one or more client  
2 computers comprise a speech recognition device for receiving a verbal response from the user to  
3 the one or more tests.

1           289. The server of Claim 284, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the  
3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability  
5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.

1           290. The server of Claim 284, wherein the tests further comprise a rhyme recognition  
2 test further comprising means for providing at least two stimuli to the user and means for  
3 receiving user input in response to the at least two stimuli to determine the user's ability to  
4 recognize rhyming words.

1           291. The server of Claim 284, wherein the tests further comprise a test for recognizing  
2 the beginning sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an initial phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the initial phoneme of the stimulus.

1           292. The server of Claim 284, wherein the tests further comprise a test for recognizing  
2 the ending sound of a stimulus, the test comprising means for generating at least one stimulus

3 having at least an ending phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the ending phoneme of the stimulus.

1 293. The server of Claim 284, wherein the tests further comprise a rhyme generation  
2 test comprising means for generating a stimulus and means for receiving a response from the  
3 user identifying a sound unit that rhymes with the stimulus.  
4

1 294. The server of Claim 284, wherein the tests further comprise a sound blender test  
2 comprising means for generating at least two sound stimuli and means for receiving a user  
3 response to the at least two sound stimuli, the response indicating an ability to blend the at least  
4 two sound stimuli into a larger sound unit.

1 295. The server of Claim 284, wherein the tests further comprise a sound segmentation  
2 test comprising means for generating at least one stimulus and means for receiving a response to  
3 the stimulus comprising means for segmenting the stimulus into smaller units in order to test the  
4 ability to segment the stimulus into smaller units.

1 296. The server of Claim 284, wherein the tests comprise a sound manipulation test  
2 comprising means for generating a sound stimulus having one or more sound units and means, in  
3 response to the sound stimulus, for manipulating the sound units of the sound stimulus to test the  
4 ability to manipulate sound units.

1 297. The server of Claim 284, wherein the tests further comprise a verbal recall test  
2 comprising means for generating at least one sound stimulus and means, in response to the at  
3 least one sound stimulus, for receiving a user response indicating the recalling of the at least one  
4 sound stimulus.

1 298. The server of Claim 288 further comprising means for speaking a verbal response  
2 into the speech recognition device for receiving a verbal response from the user.

1           299. The server of Claim 284, wherein the tests further comprise a naming test  
2 comprising means for generating at least one visual stimulus and means, in response to the  
3 display of the visual stimulus, for speaking the name of or the sound associated with the visual  
4 stimulus using the speech recognition device.

1           300. The server of Claim 284, wherein the tests further comprise a word decoder test  
2 comprising means for displaying a visual stimulus to the user and means, in response to the  
3 visual stimulus, for receiving a response from the user to determine the ability to read the visual  
4 stimulus.

1           301. The server of Claim 284, wherein the tests further comprise a fluency test  
2 comprising means for generating a plurality of visual stimuli and means for receiving a user's  
3 response to the visual stimuli within a predetermined time interval to determine the user's ability  
4 to read and understand the visual stimuli.

1           302. The server of Claim 285, wherein the motivation means further comprises means  
2 for generating a graphical image and an associated sound to motivate the user to complete the  
3 tests.  
4

1           303. The server of Claim 302, wherein the motivation means further comprises means  
2 for generating the graphical image and associated sound after a first predetermined number of  
3 tests are completed and means for generating another graphical image and associated sound after  
4 a second predetermined number of tests are completed.

1           304. The server of Claim 303, wherein the generating means further comprises means  
2 for generating a graphical image indicating the number of tests remaining to be completed.

1           305. The server of Claim 303, wherein the motivation means further comprises means  
2 for generating the graphical image and associated sound after a third predetermined number of  
3 tests.  
4

1           306. The server of Claim 284, wherein the recommender further comprises means for  
2 downloading the recommended training module to the client computer.

12           307. The server of Claim 284, wherein the recommender further comprises means for  
13 storing the incorrect responses to the one or more tests and means for generating a training  
14 module recommendation based on the incorrect responses.

15           308. The server of Claim 307, wherein the recommender further comprises means for  
16 comparing each incorrect response to one or more error measures to identify an error associated  
17 with each incorrect response and means for generating a training module recommendation based  
18 on the identified error.

19           309. The server of Claim 308, wherein the comparing means further comprises means  
20 for identifying one or more errors for each incorrect response.

21           310. The server of Claim 308, wherein the recommender further comprises means for  
22 identifying a deficient skill by comparing the identified error to a deficient skill rule and means  
23 for generating a training module recommendation based on the identified deficient skill.

24           311. The server of Claim 284 further comprising means for dynamically generating  
25 one or more data reports that illustrate the data associated with the one or more tests.

26           312. The server of Claim 311, wherein the data reports further comprises means for  
27 displaying the test results simultaneously for one or more students.

28           313. The server of Claim 312, wherein the displaying means further comprises means  
29 for displaying the percentage of correct responses for a test.

30           314. The server of Claim 312, wherein the displaying means further comprises means  
31 for displaying the results for one or more different tests for each user wherein the results for each  
32 test are displayed in a different color.

33           315. The server of Claim 311, wherein the data report generator further comprises a  
34 user interface for browsing other test data for a user.

35           316. The server of Claim 311, wherein the data report generator further comprises  
36 means for determining the number of user test results shown.

37           317. The server of Claim 311, wherein the data report generator further comprises  
38 means for permitting the user to select a data report print format.

39           318. The server of Claim 311, wherein the data report generator further comprises  
40 means for permitting the user to select a data report display format.

319. The server of Claim 311, wherein the data report generator further comprises means for generating a data report for one or more students in a class, means for generating a data report for one or more classes each having one or more students and means for generating a data report for a school having one or more classes.

320. The server of Claim 285 further comprising a teacher station that downloads the tests from the server and one or more student computers connected to the teacher station by a network, each student computer further comprising means for displaying at least one of a graphical image and audio associated with each test located on the server, means for receiving a user response to one of the graphical images and audio presented by each test and means for communicating the responses for each test back to the teacher station.

321. The server of Claim 320, wherein the teacher station further comprises means for communicating the response for each test for each student back to the server computer.

322. The server of Claim 321, wherein the teacher station further comprises means for detecting a break in the communication between the teacher station and the server computer and means for resending any test data that was not sent due to the communications break.

323. The server of Claim 320, wherein each student computer further comprises means for connecting to the server computer and means for downloading the resources necessary to execute the current test when the test is started.

324. The server of Claim 320, wherein the teacher station further comprises means for controlling each student computer.

325. The server of Claim 320, wherein the teacher station further comprises means for generating a classroom layout showing an icon for each student computer.

326. The server of Claim 325, wherein the teacher station further comprises means for monitoring each student's test progress and controlling each student computer.

327. The server of Claim 325, wherein the teacher station further comprises means for collecting student test data.

328. The server of Claim 325, wherein generating the layout further comprises means for coloring each icon depending on the state of testing for the particular student computer.

329. The server of Claim 284, wherein the teacher station further comprises means for generating one or more separate accounts for the diagnostic system, wherein the accounts include

an account manager for managing an entire school or district of users of the diagnostic system, a lead teacher for managing the use of the diagnostic system by one or more classroom teachers in a particular school and one or more classroom teachers who each administer the diagnostic testing for a particular class of students.

330. The server of Claim 329, wherein the teacher station further comprises means for the account manager to register one or more lead teachers and means for each lead teacher to register one or more classroom teachers who administer the test.

331. The server of Claim 330, wherein the account manager has access to testing data for the entire district, wherein the lead teacher has access to testing data for the entire school and each classroom teacher has access to testing data for the class of the classroom teacher.

332. A system for recommending a training module based on one or more tests, comprising:

means for determining the incorrect responses to one or more tests wherein the incorrect responses indicate a reading skill deficiency; and

means for recommending a training module that improves a particular reading skill based on the incorrect responses.

333. The system of Claim 332, wherein the recommender further comprises means for comparing each incorrect response to one or more error measures to generate an error measure associated with each incorrect response and means for generating a training module recommendation based on the error measures.

334. The system of Claim 333, wherein the comparing means further comprises means for generating one or more error measures for each incorrect response.

335. The system of Claim 333, wherein the recommender further comprises means for identifying a deficient skill by comparing the error measure to a deficient skill rule and means for generating a training module recommendation based on the identified deficient skill.



93           336.   A method for recommending a training module based on one or more tests,  
94 comprising:

          determining the incorrect responses to one or more tests wherein the incorrect responses  
indicate a reading skill deficiency; and

          recommending a training module that improves a particular reading skill based on the  
incorrect responses.

95           337.   The method of Claim 336, wherein the recommender further comprises  
96 comparing each incorrect response to one or more error measures to generate an error measure  
97 associated with each incorrect response and generating a training module recommendation based  
98 on the error measures.

99           338.   The method of Claim 337, wherein the comparing further comprises generating  
100 one or more error measures for each incorrect response.

101           The method of Claim 337, wherein the recommender further comprises identifying a  
102 deficient skill by comparing the error measure to a deficient skill rule and generating a training  
103 module recommendation based on the identified deficient skill.

104           339.   The system of Claim F, wherein each client computer further comprises means for  
105 motivating the user to complete the tests.

106           340. A system for testing one or more skills associated with the reading skills of an  
107 individual, comprising:

108           a server computer comprising one or more tests for determining deficiencies in one or  
109 more reading and pre-reading skills, a scorer for determining a score for each test;

110           a teacher station for downloading the tests from the server computer; and

111           one or more student computers that establish a communications session with the teacher  
112 station over a computer network, each student computer comprising means for displaying at least  
113 one of a graphical image and audio associated with each test located on the server, means for  
114 receiving a user response to one of the graphical images and audio presented by each test, and  
115 means for communicating the responses for each test back to the server computer.

116           341. The system of Claim 340, wherein each client computer further comprises means  
117 for motivating the user to complete the tests.

118           342. The system of Claim 340, wherein the server further comprises a questionnaire  
119 having one or more questions for eliciting information about risk factors associated with  
120 language-based learning disabilities.

121  
1           343. The system of Claim 342, wherein the information comprises historical data about  
2 reading-related risk factors including one or more of medical conditions including chronic otitis  
3 media, family history data including history of dyslexia, environmental data including  
4 socioeconomic status and exposure to literacy at home and observational data about an  
5 individual's behaviors reflecting competencies in speech sound awareness.

6  
1           344. The system of Claim 340, wherein the user input device of the one or more client  
2 computers comprise a speech recognition device for receiving a verbal response from the user to  
3 the one or more tests.

1           345. The system of Claim 340, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the  
3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability

5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.

1 346. The system of Claim 340, wherein the tests further comprise a rhyme recognition  
2 test further comprising means for providing at least two stimuli to the user and means for  
3 receiving user input in response to the at least two stimuli to determine the user's ability to  
4 recognize rhyming words.

1 347. The system of Claim 340, wherein the tests further comprise a test for recognizing  
2 the beginning sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an initial phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the initial phoneme of the stimulus.

1 348. The system of Claim 340, wherein the tests further comprise a test for recognizing  
2 the ending sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an ending phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the ending phoneme of the stimulus.

1 349. The system of Claim 340, wherein the tests further comprise a rhyme generation  
2 test comprising means for generating a stimulus and means for receiving a response from the  
3 user identifying a sound unit that rhymes with the stimulus.

1 350. The system of Claim 340, wherein the tests further comprise a sound blender test  
2 comprising means for generating at least two sound stimuli and means for receiving a user

3 response to the at least two sound stimuli, the response indicating an ability to blend the at least  
4 two sound stimuli into a larger sound unit.

1 351. The system of Claim 340, wherein the tests further comprise a sound  
2 segmentation test comprising means for generating at least one stimulus and means for receiving  
3 a response to the stimulus comprising means for segmenting the stimulus into smaller units in  
4 order to test the ability to segment the stimulus into smaller units.

1 352. The system of Claim 340, wherein the tests comprise a sound manipulation test  
2 comprising means for generating a sound stimulus having one or more sound units and means, in  
3 response to the sound stimulus, for manipulating the sound units of the sound stimulus to test the  
4 ability to manipulate sound units.

1 353. The system of Claim 340, wherein the tests further comprise a verbal recall test  
2 comprising means for generating at least one sound stimulus and means, in response to the at  
3 least one sound stimulus, for receiving a user response indicating the recalling of the at least one  
4 sound stimulus.

1 354. The system of Claim 344 further comprising means for speaking a verbal  
2 response into the speech recognition device for receiving a verbal response from the user.

1 355. The system of Claim 340, wherein the tests further comprise a naming test  
2 comprising means for generating at least one visual stimulus and means, in response to the  
3 display of the visual stimulus, for speaking the name of or the sound associated with the visual  
4 stimulus using the speech recognition device.

1 356. The system of Claim 340, wherein the tests further comprise a word decoder test  
2 comprising means for displaying a visual stimulus to the user and means, in response to the  
3 visual stimulus, for receiving a response from the user to determine the ability to read the visual  
4 stimulus.

1           357. The system of Claim 340, wherein the tests further comprise a fluency test  
2 comprising means for generating a plurality of visual stimuli and means for receiving a user's  
3 response to the visual stimuli within a predetermined time interval to determine the user's ability  
4 to read and understand the visual stimuli.

5  
6           358. The system of Claim 341, wherein the motivation means further comprises means  
7 for generating a graphical image and an associated sound to motivate the user to complete the  
8 tests.

9  
10           359. The system of Claim 358, wherein the motivation means further comprises means  
11 for generating the graphical image and associated sound after a first predetermined number of  
12 tests are completed and means for generating another graphical image and associated sound after  
13 a second predetermined number of tests are completed.

14           360. The system of Claim 359, wherein the generating means further comprises means  
15 for generating a graphical image indicating the number of tests remaining to be completed.

16           361. The system of Claim 359, wherein the motivation means further comprises means  
17 for generating the graphical image and associated sound after a third predetermined number of  
18 tests.

19  
20           362. The system of 340 her comprising a recommender for recommending, based on  
21 the scores of the one or more tests, one or more training modules for improving a reading or pre-  
reading skill of the individual as indicated by the score of the tests.

22           363. The system of Claim 362, wherein the recommender further comprises means for  
downloading the recommended training module to the student computer.

23           364. The system of Claim 362, wherein the recommender further comprises means for  
24 storing the incorrect responses to the one or more tests and means for generating a training  
25 module recommendation based on the incorrect responses.

26           365. The system of Claim 364, wherein the recommender further comprises means for  
27 comparing each incorrect response to one or more error measures to identify an error associated

22 with each incorrect response and means for generating a training module recommendation based  
23 on the identified error.

24 366. The system of Claim 365, wherein the comparing means further comprises means  
25 for identifying one or more errors for each incorrect response.

26 367. The system of Claim 365, wherein the recommender further comprises means for  
27 identifying a deficient skill by comparing the identified error to a deficient skill rule and means  
28 for generating a training module recommendation based on the identified deficient skill.

29 368. The system of 340, wherein the server further comprises means for dynamically  
30 generating one or more data reports that illustrate the data associated with the one or more tests.

31 369. The system of Claim 368, wherein the data reports further comprises means for  
32 displaying the test results simultaneously for one or more students.

33 370. The system of Claim 369, wherein the displaying means further comprises means  
34 for displaying the percentage of correct responses for a test.

35 371. The system of Claim 369, wherein the displaying means further comprises means  
36 for displaying the results for one or more different tests for each user wherein the results for each  
37 test are displayed in a different color.

38 372. The system of Claim 368, wherein the data report generator further comprises a  
39 user interface for browsing other test data for a user.

40 373. The system of Claim 368, wherein the data report generator further comprises  
41 means for determining the number of user test results shown.

42 374. The system of Claim 368, wherein the data report generator further comprises  
43 means for permitting the user to select a data report print format.

44 375. The system of Claim 368, wherein the data report generator further comprises  
45 means for permitting the user to select a data report display format.

46 376. The system of Claim 368, wherein the data report generator further comprises  
47 means for generating a data report for one or more students in a class, means for generating a  
48 data report for one or more classes each having one or more students and means for generating a  
49 data report for a school having one or more classes.

50 377. The system of Claim 340, wherein the teacher station further comprises means for  
51 communicating the response for each test for each student back to the server computer.



378. The system of Claim 377, wherein the teacher station further comprises means for detecting a break in the communication between the teacher station and the server computer and means for resending any test data that was not sent due to the communications break.

379. The system of Claim 340, wherein each student computer further comprises means for connecting to the server computer and means for downloading the resources necessary to execute the current test when the test is started.

380. The system of Claim 340, wherein the teacher station further comprises means for generating a classroom layout showing an icon for each student computer.

381. The system of Claim 380, wherein the teacher station further comprises means for monitoring each student's test progress and controlling each student computer.

382. The system of Claim 380, wherein the teacher station further comprises means for collecting student test data.

383. The system of Claim 380, wherein generating the layout further comprises means for coloring each icon depending on the state of testing for the particular student computer.

384. The system of Claim F, wherein the teacher station further comprises means for generating one or more separate accounts for the diagnostic system, wherein the accounts include an account manager for managing an entire school or district of users of the diagnostic system, a lead teacher for managing the use of the diagnostic system by one or more classroom teachers in a particular school and one or more classroom teachers who each administer the diagnostic testing for a particular class of students.

385. The system of Claim F+40, wherein the teacher station further comprises means for the account manager to register one or more lead teachers and means for each lead teacher to register one or more classroom teachers who administer the test.

386. The system of Claim F+41, wherein the account manager has access to testing data for the entire district, wherein the lead teacher has access to testing data for the entire school and each classroom teacher has access to testing data for the class of the classroom teacher.

78

79           387. A method for testing one or more skills associated with the reading skills of an  
80 individual, comprising:

81           storing instructions corresponding to one or more tests on a server for determining  
82 deficiencies in one or more reading and pre-reading skills and a scorer for determining a score  
83 for each test;

84           downloading the one or more tests from the server computer to a teacher station;

85           displaying at least one of a graphical image and audio associated with each test located  
86 on the server at the client computer connected to the teacher station;

87           receiving a user response to one of the graphical images and audio presented by each test  
88 at the client computer connected to the teacher station;

89           communicating the responses for each test back to the teacher station; and

1           388. The method of Claim F further comprising motivating the user to complete the  
2 tests.

3           389. The method of Claim F further comprising generating a questionnaire having one  
4 or more questions for eliciting information about risk factors associated with language-based  
5 learning disabilities.

1           390. The method of Claim F+2, wherein the information comprises historical data  
2 about reading-related risk factors including one or more of medical conditions including chronic  
3 otitis media, family history data including history of dyslexia, environmental data including  
4 socioeconomic status and exposure to literacy at home and observational data about an  
5 individual's behaviors reflecting competencies in speech sound awareness.

1           391. The method of Claim F further comprising receiving a verbal response from a  
2 user to one or more tests using a speech recognition device.

1           392. The method of Claim F, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the

3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability  
5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.

1 393. The method of Claim F, wherein the tests further comprise a rhyme recognition  
2 test further comprising providing at least two stimuli to the user and receiving user input in  
3 response to the at least two stimuli to determine the user's ability to recognize rhyming words.

1 394. The method of Claim F, wherein the tests further comprise a test for recognizing  
2 the beginning sound of a stimulus, the test comprising generating at least one stimulus having at  
3 least an initial phoneme and receiving a response to the stimulus that indicates an ability of the  
4 test taker to recognize the initial phoneme of the stimulus.

1 395. The method of Claim F, wherein the tests further comprise a test for recognizing  
2 the ending sound of a stimulus, the test comprising generating at least one stimulus having at  
3 least an ending phoneme and receiving a response to the stimulus that indicates an ability of the  
4 test taker to recognize the ending phoneme of the stimulus.

1 396. The method of Claim F, wherein the tests further comprise a rhyme generation  
2 test comprising generating a stimulus and receiving a response from the user identifying a sound  
3 unit that rhymes with the stimulus.

1           397. The method of Claim F, wherein the tests further comprise a sound blender test  
2 comprising generating at least two sound stimuli and receiving a user response to the at least two  
3 sound stimuli, the response indicating an ability to blend the at least two sound stimuli into a  
4 larger sound unit.

1           398. The method of Claim F, wherein the tests further comprise a sound segmentation  
2 test comprising generating at least one stimulus and receiving a response to the stimulus  
3 comprising means for segmenting the stimulus into smaller units in order to test the ability to  
4 segment the stimulus into smaller units.

1           399. The method of Claim F, wherein the tests comprise a sound manipulation test  
2 comprising generating a sound stimulus having one or more sound units and, in response to the  
3 sound stimulus, manipulating the sound units of the sound stimulus to test the ability to  
4 manipulate sound units.

1           400. The method of Claim F, wherein the tests further comprise a verbal recall test  
2 comprising generating at least one sound stimulus and, in response to the at least one sound  
3 stimulus, receiving a user response indicating the recalling of the at least one sound stimulus.

1           401. The method of Claim F+4 further comprising speaking a verbal response into the  
2 speech recognition device for receiving a verbal response from the user.

1           402. The method of Claim F, wherein the tests further comprise a naming test  
2 comprising generating at least one visual stimulus and, in response to the display of the visual  
3 stimulus, speaking the name of or the sound associated with the visual stimulus using the speech  
4 recognition device.

1           403. The method of Claim F, wherein the tests further comprise a word decoder test  
2 comprising displaying a visual stimulus to the user and, in response to the visual stimulus,  
3 receiving a response from the user to determine the ability to read the visual stimulus.

1           404. The method of Claim F, wherein the tests further comprise a fluency test  
2 comprising generating a plurality of visual stimuli and receiving a user's response to the visual  
3 stimuli within a predetermined time interval to determine the user's ability to read and  
4 understand the visual stimuli.

5           405. The method of Claim F, wherein the motivation further comprises generating a  
6 graphical image and an associated sound to motivate the user to complete the tests.

1           406. The method of Claim F+19, wherein the motivation further comprises generating  
2 the graphical image and associated sound after a first predetermined number of tests are  
3 completed and generating another graphical image and associated sound after a second  
4 predetermined number of tests are completed.

5           407. The method of Claim F+20, wherein the generating further comprises generating  
6 a graphical image indicating the number of tests remaining to be completed.

7           408. The method of Claim F+20, wherein the motivation further comprises generating  
8 the graphical image and associated sound after a third predetermined number of tests.

9           409. The method of Claim F further comprising, based on the test scores, recommending  
10 a training module to improve the skill of a user.

11           410. The method of Claim F+1, wherein the recommender further comprises  
12 downloading the recommended training module to the client computer.

13           411. The method of Claim F+1, wherein the recommender further comprises storing  
14 the incorrect responses to the one or more tests and generating a training module  
15 recommendation based on the incorrect responses.

16           412. The method of Claim F+23, wherein the recommender further comprises  
17 comparing each incorrect response to one or more error measures to identify an error associated  
18 with each incorrect response and generating a training module recommendation based on the  
19 identified error.

20           413. The method of Claim F+24, wherein the comparing further comprises identifying  
21 one or more errors for each incorrect response.

22           414.   The method of Claim F+24, wherein the recommender further comprises  
23 identifying a deficient skill by comparing the identified error to a deficient skill rule and  
24 generating a training module recommendation based on the identified deficient skill.

25           415.   The method of Claim F further comprising dynamically generating one or more  
26 data reports that illustrate the data associated with the one or more tests.

27           416.   The method of Claim F+27, wherein the data reports further comprises displaying  
28 the test results simultaneously for one or more students.

29           417.   The method of Claim F+28, wherein the displaying further comprises displaying  
30 the percentage of correct responses for a test.

31           418.   The method of Claim F+28, wherein the displaying further comprises displaying  
32 the results for one or more different tests for each user wherein the results for each test are  
33 displayed in a different color.

34           419.   The method of Claim F+27, wherein the data report generator further comprises a  
35 user interface for browsing other test data for a user.

36           420.   The method of Claim F+27, wherein the data report generator further comprises  
37 determining the number of user test results shown.

38           421.   The method of Claim F+27, wherein the data report generator further comprises  
39 permitting the user to select a data report print format.

40           422.   The method of Claim F+27, wherein the data report generator further comprises  
41 permitting the user to select a data report display format.

42           423.   The method of Claim F+27, wherein the data report generator further comprises  
43 generating a data report for one or more students in a class, generating a data report for one or  
44 more classes each having one or more students and generating a data report for a school having  
45 one or more classes.

46  
47           424.   The method of Claim F, wherein the client computer further comprises a teacher  
48 station that downloads the tests from the server and one or more student computers connected to  
49 the teacher station by a network, each student computer further comprising displaying at least  
50 one of a graphical image and audio associated with each test located on the server, receiving a



51 user response to one of the graphical images and audio presented by each test and  
52 communicating the responses for each test back to the teacher station.

53 425. The method of Claim F+33, wherein the teacher station further comprises  
54 communicating the response for each test for each student back to the server computer.

55 426. The method of Claim F+34, wherein the teacher station further comprises  
56 detecting a break in the communication between the teacher station and the server computer and  
57 resending any test data that was not sent due to the communications break.

58 427. The method of Claim F+33, wherein each student computer further comprises  
59 connecting to the server computer and downloading the resources necessary to execute the  
60 current test when the test is started.

61 428. The method of Claim F+33, wherein the teacher station further comprises  
62 generating a classroom layout showing an icon for each student computer.

63 429. The method of Claim 428, wherein the teacher station further comprises  
64 monitoring each student's test progress and controlling each student computer.

65 430. The method of Claim 428, wherein the teacher station further comprises  
66 collecting student test data.

67 431. The method of Claim 428, wherein generating the layout further comprises  
68 coloring each icon depending on the state of testing for the particular student computer.

69 432. The method of Claim 424, wherein the teacher station further comprises  
70 generating one or more separate accounts for the diagnostic system, wherein the accounts include  
71 an account manager for managing an entire school or district of users of the diagnostic system, a  
72 lead teacher for managing the use of the diagnostic system by one or more classroom teachers in  
73 a particular school and one or more classroom teachers who each administer the diagnostic  
74 testing for a particular class of students.

75 433. The method of Claim 432, wherein the teacher station further comprises a user  
76 interface for the account manager to register one or more lead teachers and a user interface for  
77 each lead teacher to register one or more classroom teachers who administer the test.

78 434. The method of Claim 433, wherein the account manager has access to testing data  
79 for the entire district, wherein the lead teacher has access to testing data for the entire school and  
80 each classroom teacher has access to testing data for the class of the classroom teacher.

81  
82 435. A dual server system for testing one or more skills associated with the reading  
83 skills of an individual, comprising:  
84 a server computer comprising one or more tests for determining deficiencies in one or  
85 more reading and pre-reading skills, a scorer for determining a score for each test;  
86 a teacher station for downloading the tests from the server computer; and  
87 wherein the teacher station is connected to one or more student computer over a computer  
88 network, the teacher station further comprising means for establishing a communications session  
89 with each student computer so that each student computer displays at least one of a graphical  
90 image and audio associated with each test located on the server, receives a user response to one  
91 of the graphical images and audio presented by each test, and communicates the responses for  
92 each test back to the teacher station.

93  
94 436. The system of Claim 435, wherein each client computer further comprises means  
95 for motivating the user to complete the tests.

96 437. The system of Claim 435, wherein the server further comprises a questionnaire  
97 having one or more questions for eliciting information about risk factors associated with  
98 language-based learning disabilities.

1 438. The system of Claim 437, wherein the information comprises historical data about  
2 reading-related risk factors including one or more of medical conditions including chronic otitis  
3 media, family history data including history of dyslexia, environmental data including  
4 socioeconomic status and exposure to literacy at home and observational data about an  
5 individual's behaviors reflecting competencies in speech sound awareness.

1 439. The system of Claim 435, wherein the user input device of the one or more client  
2 computers comprise a speech recognition device for receiving a verbal response from the user to  
3 the one or more tests.

1           440. The system of Claim 435, wherein the one or more tests comprise a rhyme  
2 recognition test for testing the ability to recognize rhymes, a rhyme generation test for testing the  
3 ability to generate rhymes, a beginning and ending sound recognizer for testing the ability to  
4 recognize the beginning and ending sounds of a word, a word decoder test for testing the ability  
5 to read by sounding out a written word, a sound blender test for testing the ability to blend sound  
6 units together to form words, a sound segmenting test for testing the ability to segment a sound  
7 unit into smaller sound units, a sound manipulator test for testing the ability to manipulate sound  
8 units to form a new unit, a sequential verbal recall test for testing the ability to recall a sequence  
9 of spoken items, a rapid naming test for testing the ability to rapidly name one or more items, a  
10 letter naming and symbol/sound association test for testing the ability to name letters and identify  
11 the association between a symbol and an associated sound, and a fluent reader test for testing the  
12 ability to read fluently.

1           441. The system of Claim 435, wherein the tests further comprise a rhyme recognition  
2 test further comprising means for providing at least two stimuli to the user and means for  
3 receiving user input in response to the at least two stimuli to determine the user's ability to  
4 recognize rhyming words.

1           442. The system of Claim 435, wherein the tests further comprise a test for recognizing  
2 the beginning sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an initial phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the initial phoneme of the stimulus.

1           443. The system of Claim 435, wherein the tests further comprise a test for recognizing  
2 the ending sound of a stimulus, the test comprising means for generating at least one stimulus  
3 having at least an ending phoneme and means for receiving a response to the stimulus that  
4 indicates an ability of the test taker to recognize the ending phoneme of the stimulus.

1           444. The system of Claim 435, wherein the tests further comprise a rhyme generation  
2 test comprising means for generating a stimulus and means for receiving a response from the  
3 user identifying a sound unit that rhymes with the stimulus.

1           445. The system of Claim 435, wherein the tests further comprise a sound blender test  
2 comprising means for generating at least two sound stimuli and means for receiving a user  
3 response to the at least two sound stimuli, the response indicating an ability to blend the at least  
4 two sound stimuli into a larger sound unit.

1           446. The system of Claim 435, wherein the tests further comprise a sound  
2 segmentation test comprising means for generating at least one stimulus and means for receiving  
3 a response to the stimulus comprising means for segmenting the stimulus into smaller units in  
4 order to test the ability to segment the stimulus into smaller units.

1           447. The system of Claim 435, wherein the tests comprise a sound manipulation test  
2 comprising means for generating a sound stimulus having one or more sound units and means, in  
3 response to the sound stimulus, for manipulating the sound units of the sound stimulus to test the  
4 ability to manipulate sound units.

1           448. The system of Claim 435, wherein the tests further comprise a verbal recall test  
2 comprising means for generating at least one sound stimulus and means, in response to the at  
3 least one sound stimulus, for receiving a user response indicating the recalling of the at least one  
4 sound stimulus.

1           449. The system of Claim 439 further comprising means for speaking a verbal  
2 response into the speech recognition device for receiving a verbal response from the user.

1           450. The system of Claim 435, wherein the tests further comprise a naming test  
2 comprising means for generating at least one visual stimulus and means, in response to the

3 display of the visual stimulus, for speaking the name of or the sound associated with the visual  
4 stimulus using the speech recognition device.

1 451. The system of Claim 435, wherein the tests further comprise a word decoder test  
2 comprising means for displaying a visual stimulus to the user and means, in response to the  
3 visual stimulus, for receiving a response from the user to determine the ability to read the visual  
4 stimulus.

1 452. The system of Claim 435, wherein the tests further comprise a fluency test  
2 comprising means for generating a plurality of visual stimuli and means for receiving a user's  
3 response to the visual stimuli within a predetermined time interval to determine the user's ability  
4 to read and understand the visual stimuli.

5 453. The system of Claim 436, wherein the motivation means further comprises means  
6 for generating a graphical image and an associated sound to motivate the user to complete the  
7 tests.

8 454. The system of Claim 453, wherein the motivation means further comprises means  
9 for generating the graphical image and associated sound after a first predetermined number of  
10 tests are completed and means for generating another graphical image and associated sound after  
11 a second predetermined number of tests are completed.

12 455. The system of Claim 454, wherein the generating means further comprises means  
13 for generating a graphical image indicating the number of tests remaining to be completed.

14 456. The system of Claim 454, wherein the motivation means further comprises means  
for generating the graphical image and associated sound after a third predetermined number of  
tests.

1 457. The system of Claim 435 further comprising a recommender for recommending,  
2 based on the scores of the one or more tests, one or more training modules for improving a  
3 reading or pre-reading skill of the individual as indicated by the score of the tests.

15           458. The system of Claim 457, wherein the recommender further comprises means for  
16 downloading the recommended training module to the student computer.

17           459. The system of Claim 457, wherein the recommender further comprises means for  
18 storing the incorrect responses to the one or more tests and means for generating a training  
19 module recommendation based on the incorrect responses.

20           460. The system of Claim 459, wherein the recommender further comprises means for  
21 comparing each incorrect response to one or more error measures to identify an error associated  
22 with each incorrect response and means for generating a training module recommendation based  
23 on the identified error.

24           461. The system of Claim 460, wherein the comparing means further comprises means  
25 for identifying one or more errors for each incorrect response.

26           462. The system of Claim 460 wherein the recommender further comprises means for  
27 identifying a deficient skill by comparing the identified error to a deficient skill rule and means  
28 for generating a training module recommendation based on the identified deficient skill.

29           463. The system of Claim 435, wherein the server further comprises means for  
30 dynamically generating one or more data reports that illustrate the data associated with the one or  
31 more tests.

32           464. The system of Claim 463, wherein the data reports further comprises means for  
33 displaying the test results simultaneously for one or more students.

34           465. The system of Claim 464, wherein the displaying means further comprises means  
35 for displaying the percentage of correct responses for a test.

36           466. The system of Claim 464, wherein the displaying means further comprises means  
37 for displaying the results for one or more different tests for each user wherein the results for each  
38 test are displayed in a different color.

39           467. The system of Claim 463, wherein the data report generator further comprises a  
40 user interface for browsing other test data for a user.

41           468. The system of Claim 463, wherein the data report generator further comprises  
42 means for determining the number of user test results shown.

43           469. The system of Claim 463, wherein the data report generator further comprises  
44 means for permitting the user to select a data report print format.



45           470. The system of Claim 463, wherein the data report generator further comprises  
46 means for permitting the user to select a data report display format.

47           471. The system of Claim 463, wherein the data report generator further comprises  
48 means for generating a data report for one or more students in a class, means for generating a  
49 data report for one or more classes each having one or more students and means for generating a  
50 data report for a school having one or more classes.

51           472. The system of Claim 435, wherein the teacher station further comprises means for  
52 communicating the response for each test for each student back to the server computer.

53           473. The system of Claim 472, wherein the teacher station further comprises means for  
54 detecting a break in the communication between the teacher station and the server computer and  
55 means for resending any test data that was not sent due to the communications break.

56           474. The system of Claim 435, wherein each student computer further comprises  
57 means for connecting to the server computer and means for downloading the resources necessary  
58 to execute the current test when the test is started.

59           475. The system of Claim 435, wherein the teacher station further comprises means for  
60 generating a classroom layout showing an icon for each student computer.

61           476. The system of Claim 475, wherein the teacher station further comprises means for  
62 monitoring each student's test progress and controlling each student computer.

63           477. The system of Claim 475, wherein the teacher station further comprises means for  
64 collecting student test data.

65           478. The system of Claim 475, wherein generating the layout further comprises means  
66 for coloring each icon depending on the state of testing for the particular student computer.

67           479. The system of Claim 435, wherein the teacher station further comprises means for  
68 generating one or more separate accounts for the diagnostic system, wherein the accounts include  
69 an account manager for managing an entire school or district of users of the diagnostic system, a  
70 lead teacher for managing the use of the diagnostic system by one or more classroom teachers in  
71 a particular school and one or more classroom teachers who each administer the diagnostic  
72 testing for a particular class of students.

73           480.   The system of Claim 479, wherein the teacher station further comprises means for  
74   the account manager to register one or more lead teachers and means for each lead teacher to  
75   register one or more classroom teachers who administer the test.

76           481.   The system of Claim 480, wherein the account manager has access to testing data  
77   for the entire district, wherein the lead teacher has access to testing data for the entire school and  
78   each classroom teacher has access to testing data for the class of the classroom teacher.

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